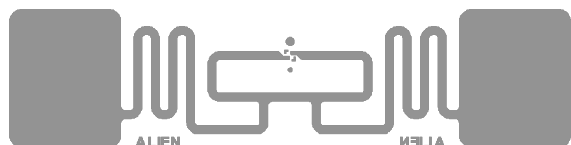




# ALN-9662 SHORT INLAY

The Alien Technology® ALN-9662 “Short” RFID inlay is a narrower version of its high-performance, general-purpose Squiggle® sibling.



## Applications

- Corrugate cases
- Pallet cards
- Apparel hang tags
- Application on plastics
- Asset management
- File folder labels
- Shipping labels

| FEATURE                                            | DESCRIPTION                                                                                                                                     | BENEFIT                                                 |
|----------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------|
| Squiggle tag performance in a narrower form-factor | Equivalent performance to the well-regarded Squiggle tag but in a more compact form-factor. One of Aliens best performing general-purpose tags. | Smaller form-factor, still robust, proven, and reliable |
| Multiple frequency optimized sensitivity           | Optimized for high performance in all world regions                                                                                             | A worldwide performance tag                             |

## Features:

- › Designed to meet EPCglobal Gen2 (V1.2.0) and ISO/IEC 18000-6C
- › Worldwide RFID UHF operation (840-960MHz)
- › Higgs™-3 IC with 800-bits of Nonvolatile Memory
  - 32-bit TID
  - 64-bit Unique TID
  - 96-bit EPC Memory, extensible to 480-bits
  - 512-bit User Memory
  - 32-bit Access password
  - 32-bit Kill password
- › Pre-programmed with a unique, unalterable 64-bit serial number (ideal for authentication)
- › User Memory can be Block Perma-Locked
- › User Memory can be Read Password protected in 64-bit blocks, prohibiting unintended Reads without an access password
- › Supports all Mandatory and Optional Gen 2 commands including item level commands
- › Custom commands for high speed programming
- › Available in high-yield, high-capacity dry/wet inlay rolls for high volume converting processes

## Product Overview:

Powered by Alien®’s break-through **Higgs™3 UHF RFID IC** and **innovative Short antenna design**, the ALN-9662 delivers industry leading EPC Gen 2 performance and reliability in a narrower width than it’s bigger brother, the Squiggle®.

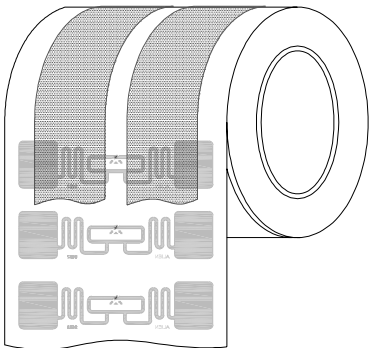
ALN-9662 inlays are World Tag compliant, enabling consistent operation across the diverse frequencies of the Americas, Europe, Middle East, Asia, and Africa.

With its Higgs-3 core, the Short delivers excellent performance and a rich feature set including a 32-bit TID, a **64-bit Unique TID for authentication and serialization** applications, an **extensible EPC memory bank, 512-bits of user memory** for distributed data applications, and **password protected read and write** support capabilities to prevent unauthorized viewing and modification of the tag’s data.

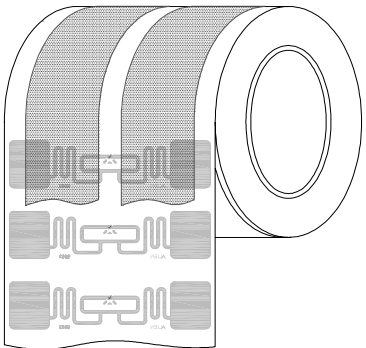
Typical applications for the Short include, but are not limited to, corrugate cases, pallet placard labels, apparel hang tags, shipping labels, asset management, file folder labels, and application on plastics.



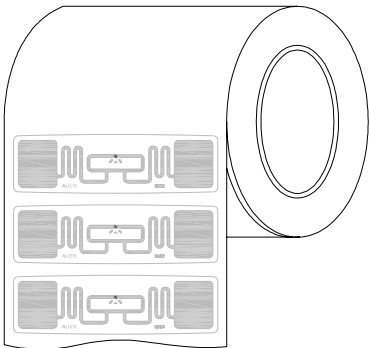
ALN-9662 Inlay Orientation



ALN-9662-FRA  
(Dry Unslit Roll)



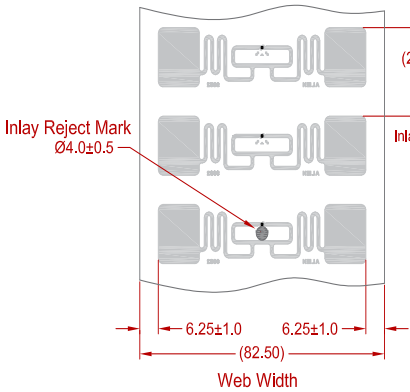
ALN-9662-FSRA  
(Dry Slit Roll)



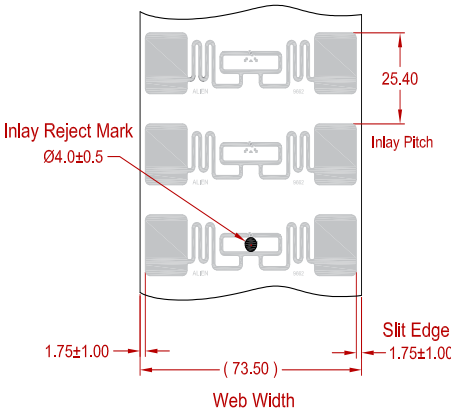
ALN-9662-FWRCA / FWRWA  
(Clear / White Wet Inlay)

Standard Alien Inlay rolls unwind with metal antenna side facing outward, with respect to the core.

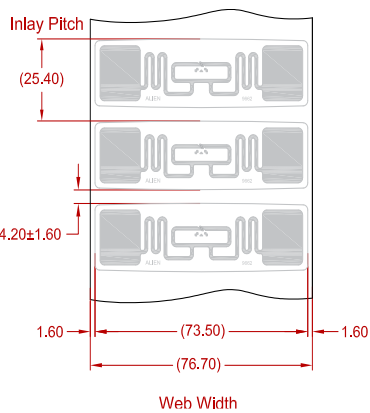
ALN-9662 Inlay Specification



ALN-9662-FRA  
(Dry Unslit Roll)

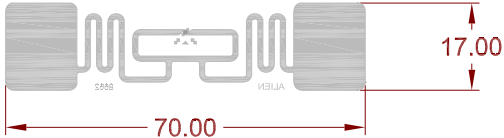


ALN-9662-FSRA  
(Dry Slit Roll)

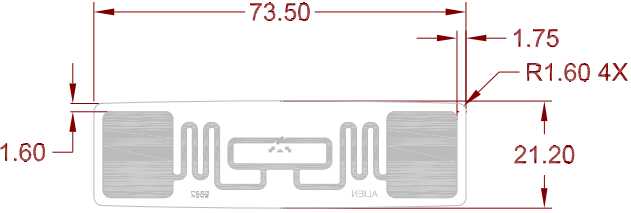


ALN-9662-FWRCA / FWRWA  
(Clear / White Wet Inlay)

ALN-9662 Inlay General Dimensions



ALN-9662-FRA / FSRA  
(Dry Unslit / Slit Inlay)



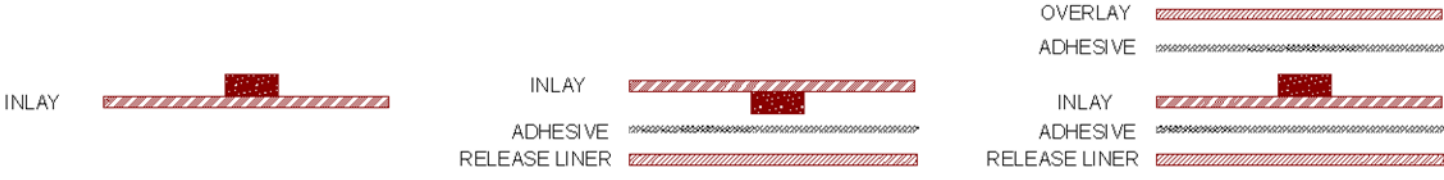
ALN-9662-FWRCA / FWRWA  
(Clear / White Wet Inlay)

ALN-9662 Inlay Stackup

| DRY INLAY THICKNESS, ±10% |         |
|---------------------------|---------|
| OVER ANTENNA              | 0.05 mm |
| OVER CHIP                 | 0.25 mm |

| CLEAR WET INLAY THICKNESS, ±10% |         |
|---------------------------------|---------|
| OVER ANTENNA                    | 0.08 mm |
| OVER CHIP                       | 0.28 mm |

| WHITE WET INLAY THICKNESS, ±10% |         |
|---------------------------------|---------|
| OVER ANTENNA                    | 0.16 mm |
| OVER CHIP                       | 0.36 mm |

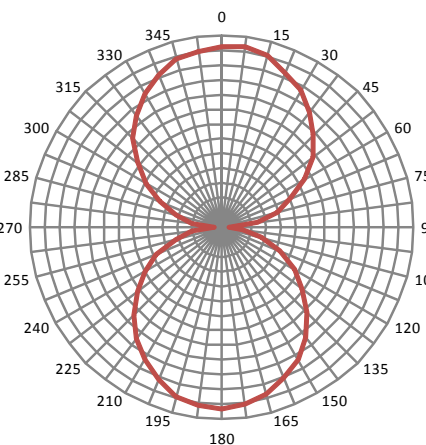


ALN-9662-FRA / FSRA  
(Dry Unslit / Slit Inlay)

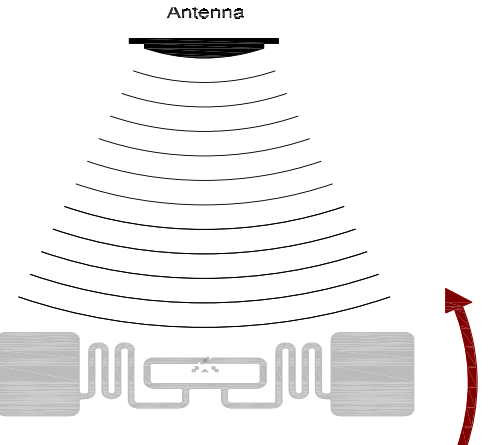
ALN-9662-FWRCA  
(Clear Wet Inlay)

ALN-9662-FWRWA  
(White Wet Inlay)

ALN-9662 Inlay Angular Sensitivity



Angular Sensitivity  
(Relative Read Range vs. Orientation)



Angular Sensitivity  
Inlay is rotated in the x, y, plane about the z axis  
(tag shown at 0° with respect to face of antenna)

## ALN-9662 Specifications

### Dry Inlay

|                    |                  |
|--------------------|------------------|
| Antenna Width      | 2.756" [70mm]    |
| Antenna Length     | 0.669" [17mm]    |
| Web Width (-FRA)   | 3.25" [82.5mm]   |
| Web Width (-FSRA)  | 2.89" [73.5mm]   |
| Web Pitch          | 1.0" [25.4mm]    |
| Core Width (-FRA)  | 3.25" [82.5mm]   |
| Core Width (-FSRA) | 2.89" [73.5mm]   |
| Core ID            | 6" [152.4mm]*    |
| Core Material      | Fiberboard       |
| Interleaf Material | Paper            |
| Interleaf Width    | 1.5" [38.1mm]    |
| Inlays per Roll    | 12,500 Nominal   |
| Maximum Roll OD    | < 12" [304.8mm]  |
| Roll Labeling Data | Roll #, Quantity |

### Wet Inlay

|                                  |                                    |
|----------------------------------|------------------------------------|
| Inlay Width                      | 2.89" [73.5mm]                     |
| Inlay Length                     | 0.835" [21.2mm]                    |
| Web Width (FWRWA)                | 3.02" [76.7mm]                     |
| Web Pitch                        | 1.0" [25.4mm]                      |
| Core Width                       | 2.89" [73.5mm]                     |
| Core ID                          | 6" [152.4mm]*                      |
| Core Material                    | Fiberboard                         |
| Inlays per Roll                  | 12,500 Nominal                     |
| Maximum Roll OD                  | < 16" [406.4mm]                    |
| Roll Labeling Data               | Roll #, Quantity                   |
| Overlay (-FWRWA)                 | TT Printable White Film Overlay    |
| Overlay Adhesive (-FWRWA)        | General Purpose Permanent          |
| Inlay Adhesive                   | General Purpose Permanent          |
| Adhesive Application Temperature | > +25°F [-4°C]                     |
| Adhesive Service Temperature     | -40°F to +200°F [-40°C to +93.3°C] |
| Release Liner                    | 40# SCK                            |

### Environmental

|                      |                                                                                                |
|----------------------|------------------------------------------------------------------------------------------------|
| Shelf Life           | Dry Inlays: 5 years at +77°F [+25°C] @ 40% RH<br>Wet Inlays: 2 years at +77°F [+25°C] @ 40% RH |
| Recommended Storage  | +77°F [+25°C] @ 40% RH                                                                         |
| Storage Limits       | -13°F to 122°F [-25°C to +50°C]<br>20% to 90% RH<br>Non-condensing                             |
| Operating Limits     | -40°F to +158°F [-40°C to +70°C]<br>20% to 90% RH<br>Non-condensing                            |
| Bend Diameter        | > 1.97" [50mm]                                                                                 |
| Pressure             | < 5N/mm <sup>2</sup>                                                                           |
| Drop Resistance      | Per ASTM D5276                                                                                 |
| Write Cycles         | 100,000 @ 25°C                                                                                 |
| RoHs                 | 2002/95/EC, 2005/618/EC, 2011/65/EU Compliant                                                  |
| REACH                | 1907/2006/EC Compliant (SVHC and ECHA)                                                         |
| ESD Limit- HBM / CDM | 5.0kV / 1.5kV                                                                                  |

### RFID

|                       |                                             |
|-----------------------|---------------------------------------------|
| Protocols Supported   | ISO/IEC 18000-6C<br>EPCglobal Class 1 Gen 2 |
| Integrated Circuit    | Alien Higgs-3                               |
| EPCglobal Certificate | 950110126000001084                          |
| Operating Frequency   | 840-960 MHz                                 |
| EPC Size              | 96 - 480 Bits                               |
| User Memory           | 512 Bits                                    |
| TID                   | 32 Bits                                     |
| Unique TID            | 64 Bits                                     |
| Access Password       | 32 Bits                                     |
| Kill Password         | 32 Bits                                     |

\* Shipped with 6" to 3" plastic core adapter  
December 18, 2015

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HANDLING PRECAUTIONS Observe standard handling practices to minimize ESD.

DISCLAIMER Application recommendations are guidelines only - actual results may vary and should be confirmed. This is a general purpose product not designed or intended for any specific application.

This product is covered by one or more of the following U.S. patents: 7967204, 7931063, 7868766, 7737825, 7716208, 7716160, 7688206, 7659822, 7619531, 7615479, 7598867, 7580378, 7576656, 7562083, 7561221, 7559486, 7559131, 7554451, 7551141, 7542301, 7542008, 7531218, 7522055, 7500610, 7489248, 7453705, 7425467, 7417306, 7411503, 7385284, 7377445, 7364084, 7353598, 7342490, 7324061, 7321159, 7301458, 7295114, 7288432, 7265675, 7262686, 7260882, 7253735, 7244326, 7218527, 7214569, 7199527, 7193504, 7173528, 7172910, 7172789, 7141176, 7113250, 7101502, 7080444, 7070851, 7068224, 7046328, 6998644, 6988667, 6985361, 6980184, 6970219, 6952157, 6942155, 6933848, 6927085, 6816380, 6780696, 6731353, 6693384, 6683663, 6665044, 6657289, 6623599, 6606247, 6606079, 6590346, 6586338, 6566744, 6555408, 6527964, 6479395, 6468638, 6420266, 6316278, 6291896, 6281038. Other patents pending.

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